

ABSTRACT OF THE DISCLOSURE

Disclosed herein is a phosphate-based dielectric ceramic composition which has a low dielectric constant and a low dielectric loss in the high-frequency bands such as microwave and millimeter wave. The composition is represented by the following formula: $(1-x)(A'_{1-y}A''_y)O \cdot xP_2O_5$ wherein x and y are numbers satisfying the following conditions: $0 < x < 1$ and $0 \leq y \leq 1$, and A' and A'' are each independently selected from the group consisting of Ca, Ba, Sr, Zn, Mb, Ni, Mn and Cu. The composition may further include a sintering assistant and an additive. Since the composition can be sintered at a temperature as low as $1,000^\circ\text{C}$, it can be simultaneously calcined together with a metal electrode such as silver, copper or silver/palladium electrode.